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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/042,926  | 01/09/2002  | John Stuart Wright   | I69.12-0512         | 4510             |
| 164   | 7590        | 03/01/2004           | EXAMINER            |                  |
| KINNEY & LANGE, P.A.<br>THE KINNEY & LANGE BUILDING<br>312 SOUTH THIRD STREET<br>MINNEAPOLIS, MN 55415-1002 |             |                      | ADDISON, KAREN B    |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2834                |                  |

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/042,926 | <b>Applicant(s)</b><br>WRIGHT ET AL. |  |
|                              | <b>Examiner</b><br>Karen B Addison   | <b>Art Unit</b><br>2834              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/5/2003.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-23 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 17-23 is/are allowed.  
 6) ☒ Claim(s) 1,2,9,11,12,14 and 15 is/are rejected.  
 7) ☒ Claim(s) 3-8,12,13 and 16 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:  
         1. ☒ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of claims 1-23 in Paper No. 3 is acknowledged.

### ***Allowable Subject Matter***

2. Claims 3-8,12,13 and16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims allowed are 17-23.

Prior art fails to show an optically guided dicing method for making a plurality of 4-sided trapezoid elements from a substrate having a surface many times larger than that of a single element, each element having first and second opposing major sides, and a top and a bottom opposing each other, the top having a top width, the bottom having a bottom width which is greater than the top width, and each element further has a length measured from the bottom to the top, wherein the first and second angled major sides define a first identical feature angle of the 4-sided trapezoid elements, the bottom and the first or the second major side define a second identical feature angle of the 4-sided polygon-shaped elements, the method comprising: marking the surface of the substrate using a plurality of optically detectable marks, wherein the marks defining an n-sided ( $n \geq 3$ ) guiding polygon having a size substantially greater than that of a single 4-sided trapezoid element, the guiding polygon having a

first and second angled opposing major sides defining an angle that is equal to the first identical feature angle of the elements, and a third side defining with one of the first and the second sides an angle equal to the second identical feature angle of the elements; cutting the substrate a plurality of times along a first cutting direction parallel to the first angled opposing major side of the guiding polygon, each cut being spaced from an adjacent cut by the bottom width of the corresponding elements; cutting the substrate a plurality of times along a second cutting direction parallel to the second angled opposing major side of the guiding polygon, each cut being spaced from an adjacent cut by the bottom width of the corresponding elements; and cutting the substrate a plurality of times along a third cutting direction parallel to the third side of the guiding polygon, each cut being spaced from an adjacent cut by the length of the corresponding elements.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 –2,9,11-12,14,15 rejected under 35 U.S.C. 102(b) as being anticipated by Nishihara (6246155).

Nishihara discloses a piezoelectric substrate in fig.1-8 having a first and second major surface fig.3d (8c), and a first and second cutting directions fig.4b (16b-p and 17a-e) that form an angle in relation to each other. Nishihara also discloses the method of

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cutting the substrate a plurality of times along the first cutting direction to result in a first set of cuts (17a-e), each cut being spaced from an adjacent cut by a first predetermined indexing distance; and cutting the substrate a plurality of times along the second cutting direction (16a-p) resulting in second set of cuts, each cut being spaced from an adjacent cutting by a second predetermined indexing distance wherein; the first and second predetermined indexing distances are substantially uniform such that the cuts in both cutting directions are equidistant. Nishihara also discloses isolation trenches (fig.4d) on the substrate, the resultant isolation trenches being parallel to each other and aligned in a trench direction forming a first angle with the first cutting direction and a second angle with the second cutting direction, each trench being spaced from an adjacent trench by a trenches distance wherein; the first angle and the second angle are equal to each other and the trench distances between two adjacent parallel trenches are substantially uniform.

In reference to claim 10, It has been held that a recitation with respect to the manner in which a claim apparatus is intended to be employed does not differentiate the claim apparatus from a prior art apparatus satisfying the claim structural limitations. *Ex Parte Masham*, 2 USPQ2d 167(1987).

In reference to claim 1 and 12 It has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

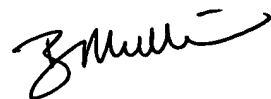
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen B Addison whose telephone number is 703-306-5855. The examiner can normally be reached on 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1317. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KBA  
2/3/04



BURTON S. MULLINS  
PRIMARY EXAMINER